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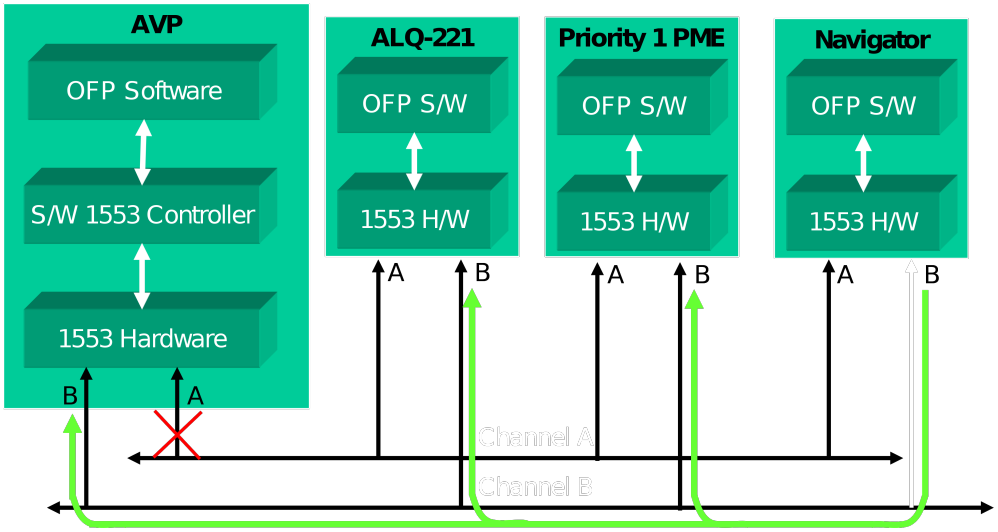

1553 Data Bus Navigation Data Architecture SIWG 9 Action Item Status

SIWG-10

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Overview

- **SIWG # 9 assigned an action item to "develop a long term solution for the 1553 data bus architecture for the U-2 and associated PME"**
  - **Hosted ASC, LX, and multiple contractors teleconference on 6 July 2004**
  - **Briefed participants on the proposed 1553 data bus architecture change**
  - **Following the teleconference, individually contacted representatives for each system to determine the required navigation data rates**
  - **Currently analyzing the impact of the architecture change on bus loading and data latency**

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Teleconference

- **6 July 2004 Teleconference Participants**
  - **LX**
  - **ASARS-2A**
  - **ALQ-221**
  - **Spur/PEG**
  - **DDL/DDL-2/DDL-2 P³I**
  - **ASIP**
  - **LN-33PIIIG**
  - **ASC**
  - **SYERS-2**
  - **Link-16**
  - **IADL/IADL-2**
  - **RAS-1R**
  - **OBC/AIRTAPS**
  - **AVP**

Requested 1553 Data Rates

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System	1553 Message	Requested Rate	Comments
ASARS-2A	LNRT-30	100 Hz	
	LNRT-14	50 Hz	
SYERS-2	LNRT-30	100 Hz	
ALQ-221	LNRT-30	10 Hz	
Link-16	LNRT-30	20 Hz	
RAS-1R (PME-2)	LNRT-30	10 Hz	
RAS-1R (PME-1)	N/A	<10 Hz	Data Provided by PME-2
ASIP*	N/A	100 Hz	Data Obtained by Monitoring ASARS/SYERS Messages
AVP*	N/A	100 Hz	Data Obtained by Monitoring ASARS/SYERS Messages
Legacy Spur	N/A		Provided by 50 kHz SND channel
Spur (PEG)	N/A		Provided by 50 kHz SND channel
IADL	N/A		Provided by 50 kHz SND channel
IADL-2	N/A		Provided by 50 kHz SND channel
DDL-2	N/A		Provided by 50 kHz SND channel
DDL-2 P³I	N/A		Provided by 50 kHz SND channel
ORC/AIRTARS	N/A		Provided by 50 kHz SND channel

* If neither ASARS-2A or SYERS-2 is on board, AVP will request LNRT-30 and ASIP will monitor AVP mes

Backup Charts

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Current Architecture

- RTs are Notified of Pending Broadcast Message
- Bus Controller Commands Navigator to Transmit the Broadcast Message (LNBR 30 or LNBR 14)
- Data is Transmitted by the Navigator to all Listening RTs
- Data Transmission Status (Success or Fail) Returned by the Navigator to Bus Controller
- Status from Receiving RTs is unknown

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Recommended Architecture

- Receiving RT is Notified of Pending RT to RT Transmission
- Bus Controller Commands Transmitting RT to Transmit the 1553 Message (ie, The Navigator Transmits Navigation Data To SYERS)
- Data Transmission Status (success or fail) returned by transmitting RT (ie, Navigator) to Bus Controller
- Data Reception Status (success or fail) returned by receiving RT (ie, SYERS) to Bus Controller
- Bus Controller knows the status of all message transmissions